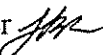


## **SAFETY COMMISSION AGENDA STATEMENT**

Item 8  
Meeting Date 11/8/07

**ITEM TITLE:** Report on request for an all-way stop at the intersection of Oleander Avenue and Tamarack Court.

**SUBMITTED BY:** Jim Newton, Senior Civil Engineer 

This item was discussed at the October 11, 2007 Safety Commission hearing and continued to the November 8, 2007 hearing in order to more thoroughly respond to questions and concerns from both the public and commissioners. The following report regarding the request for all-way stop control at the intersection of Oleander Avenue and Tamarack Court/Street includes additional volume data as well as recently collected speed and volume data as requested by the Safety Commission.

As stated in the previous report, staff received a written request from a resident of Tamarack Court requesting the installation of an all-way stop at Oleander Avenue and Tamarack Court. The resident feels that this intersection is unsafe for pedestrians and motorists alike, due to excessive vehicle speeds and sight distance constraints on Oleander Avenue. Staff has conducted a study of the intersection and has included our findings in this report to the Safety Commission for consideration.

### **RECOMMENDATION:**

That the Safety Commission concur with staff's recommendation to deny the installation of all-way stop control at this intersection and approve the installation of the following:

- stop signs for eastbound and westbound traffic complete with limit lines and "STOP" legends
- red curb on Oleander Avenue, south of Tamarack Court and Street, for a distance of 25'.
- red curb on east side of Oleander Avenue north of Tamarack Court for a distance of approximately 160'.

### **DISCUSSION:**

On July 19, 2007, staff received a letter from Ms. Evelyn Sanchez requesting the installation of all-way stop control at the intersection of Oleander Avenue and Tamarack Court. Staff conducted a preliminary all-way stop warrant study in accordance with Council Policy #478-03, the results of which are presented below in this report. Staff has also researched previous citizen requests that were presented to the Safety Commission regarding this segment of Oleander Avenue. The following is a summary of actions regarding Oleander Avenue between Main Street and Sequoia Street (please see attachments for copies of meeting minutes regarding each item):

- On November 8, 2001 requests for all-way stop control at the intersections of Oleander Avenue and Sequoia Street, and Oleander Avenue and Tamarack Court, were brought before the Safety Commission.

- *Oleander and Sequoia:* An all-way stop warrant study was completed for the intersection of Oleander Avenue and Sequoia Street and scored 29 out of a possible 100 points. Staff's recommendation, based on the points awarded in the warrant study, was to deny the installation of an all-way stop. The Safety Commission disagreed, stating that the sight distance constraints and proximity to a nearby school were enough to warrant the installation. **The Commission denied staff's request, and recommended the all-way stop be installed.** The meeting minutes for the hearing are attached to this report. The all-way stop was ultimately installed.
- *Oleander and Tamarack:* An all-way stop warrant study was completed for the intersection of Oleander Avenue and Tamarack Street, and scored 20 out of a possible 100 points. Staff's recommendation, based on the points awarded in the warrant study, was to deny the installation of an all-way stop. **The Safety Commission agreed and recommended the all way stop not be installed,** citing the intersection's proximity with the recently approved all-way stop at Sequoia, its distance from any nearby schools, and the lack of any significant accident history. The meeting minutes are attached to this report.
- On September 8, 2005, during oral communications a resident asked staff to evaluate Oleander Avenue to see if stop signs at Tanoak Court were warranted. He stated speeding vehicles traveling along Oleander Avenue were a hazardous situation for residents of the area. At the Safety Commission's request, Staff agreed to evaluate Oleander Avenue, and went on to report their findings at the October 13, 2005 Safety Commission hearing.
- On October 13, 2005, staff presented a report to the Safety Commission responding to a request for a stop sign evaluation at Tanoak Court. The report recommended the installation of traffic calming measures to reduce speeds along Oleander Avenue, stating stop signs were not the best tool to use when dealing with speeding issues. **The Safety Commission agreed with staff's recommendation to install various traffic calming measures, but also asked staff to evaluate the intersection of Tanoak Court and Oleander Avenue, as well as Tamarack Court and Oleander Avenue, for the installation of stop signs.** The meeting minutes are attached to this report.
- On December 8, 2005, responding to a request from the Safety Commission, staff presented a report regarding traffic calming along Oleander Avenue, including the possible installation of all-way stop control at the intersections of Oleander Avenue and Tamarack Court as well as Oleander Avenue and Tanoak Court.
  - *Oleander Avenue and Tamarack Court:* An all-way stop warrant study was completed for the intersection of Oleander Avenue and Tamarack Court and scored 24 out of a possible 100 points. Staff's recommendation, based on the points awarded in the warrant study, was to deny the installation of the all-way stop. **The Safety Commission agreed and recommended the all-way stop not be installed** citing that stop signs are not intended to be used as traffic calming devices. The meeting minutes are attached to this report.
  - *Oleander Avenue and Tanoak Court:* An all-way stop warrant study was completed for the intersection of Oleander Avenue and Tanoak Court and scored 21 out of a possible 100 points. Staff's recommendation, based on the points awarded in the warrant study, was to deny the installation of the all-way stop. **The Safety Commission agreed and recommended the all-way stop not be installed,** again,

citing that stop signs are not intended to be used as traffic calming devices. The meeting minutes are attached to this report.

- In addition to the all-way stop recommendations, staff recommended the installation of a curve warning sign (for the southbound direction of travel) with a 20 MPH advisory speed limit for curve. **The Safety Commission agreed with the recommendation for the curve warning sign.** After some discussion, **the Safety Commission also recommended the wattage for a street light be increased from 100w to 150w.** This work was completed in January of 2006.
- On October 11, 2007 a request for all-way stop control at the intersection of Oleander Avenue and Tamarack Court was brought before the Safety Commission. After some discussion, the Safety Commission continued the item to the next regularly scheduled meeting so staff could more thoroughly respond to questions and concerns raised by both the public and commissioners.

The intersection of Oleander Avenue and Tamarack Court / Tamarack Street is a four-legged intersection. Oleander Avenue is a two-lane Class III Collector roadway and is 40' wide curb-to-curb. Oleander Avenue is striped with a double yellow centerline and parking is delineated with white painted lines on both sides of the roadway. The total daily approach traffic volume is 1,593, with a posted speed limit of 25 mph, and 85<sup>th</sup> percentile speeds of 37 mph for both northbound and southbound directions of travel. East of Oleander Avenue, Tamarack Court is a two-lane (one lane each direction) residential street, 36' wide curb-to-curb, with parking allowed on both sides of the street and a total approaching volume of 316 vehicles per day. West of Oleander Avenue, Tamarack Street is also a residential street with two lanes (one lane each direction), 36' wide curb-to-curb, with parking allowed on both sides of this street. The total approaching volume for Tamarack Street is 166 vehicles per day. Currently there are no existing stop signs on either Tamarack Court or Tamarack Street at the intersection of Oleander Avenue.

When considering an intersection for an all-way stop control, several factors are studied to determine the need for an installation. Pedestrian and vehicle volumes, accident history, along with physical factors such as sight distances, vehicle speed, roadway alignment (such as horizontal and vertical curves), and topography, are all taken into consideration.

A review of the accident history for this intersection shows no *reported* accidents at this location within the past three years.

### **All-Way Stop Warrant Study:**

#### **Physical Conditions:**

The following table summarizes the existing conditions for the streets at this intersection:

Street	Oleander Avenue	Tamarack Ct./St.
Direction/Width	North-South/40'	East-West/36'
ADT Approaching only	1,593 (10/2007)	166 on Tamarack Street 316 on Tamarack Court
Exist. Speed limit	25 mph (Posted)	25 mph (prima facie, not posted)
85 <sup>th</sup> % speed	37 mph (southbound) 37 mph (northbound)	Unknown
Number of Lanes	One lane in each direction	One lane in each direction
Striping	Double yellow centerline & parking lane striping 8' off curb	None
On-Street Parking	Allowed	Allowed
Classification	Class III Collector	Residential
Vertical Alignment	NB approach, - 6.93% grade SB approach + 7.30 % grade	EB approach, -3.50% grade WB approach, -3.25% grade
Horizontal Alignment	NB: Tangent SB: 400' Radius, begins 50' north of the intersection	Tangent
Other conditions		

An all-way stop warrant evaluation was conducted and the subject intersection was awarded a total of 22 points based on the following conditions:

**Accident History: (0 points assigned out of a maximum of 25 points)**

- 0 points were assigned because there were no *reported*, correctible accidents prior to the investigation date.

**Unusual Conditions: (15 points assigned out of a maximum 21 points)**

- 5 points were assigned for required sight distance being less than 60%.
- 3 points were assigned for grades greater than 7% near the intersection.
- 7 points were assigned for prevailing speed of unstopped approaches being more than 10 mph higher than the posted or prima facie speed limit.

\*\* It should be noted that Valle Lindo Elementary School is in the general area, but is not close enough to warrant any "Unusual Condition" points.

**Pedestrian Volume: (4 points assigned out of a maximum 20 points)**

- 4 points were assigned for observing 8 pedestrians crossing at this intersection.

**Traffic Volume: (0 points assigned out of a maximum of 24 points)**

- No points were assigned for this part of the warrant because of low approach volumes.

**Traffic Volume Difference: (3 points assigned out of a maximum 10 points)**

- 3 points were assigned because of the intersection volume ratio. Tamarack Court and Tamarack Street approach volumes are 30.3% of the approach volumes on Oleander Avenue.

**Intersection Sight Distance:**

When investigating sight distance measurements, field measurements are compared to the required stopping sight distance values, as listed in the City of Chula Vista Design Standard TR07-A. The following table summarizes our findings:

Street Name	Direction of Traffic	Speed Limit (Oleander Avenue)	85th % Speed (Oleander Avenue)	Required Sight Distance	Measured Sight Distance (Tamarack St.)	Measured Sight Distance (Tamarack Ct.)	Adequate
*Oleander Avenue	SB NB	25 mph	37 mph SB 37 mph NB	260' 260'	+300' 206'	230' 132'	No No

\* These vehicles are traveling on Oleander Avenue being viewed from Tamarack Ct. or Tamarack Street by motorists stopped behind the curb return or cross gutter.

Motorists traveling westbound on Tamarack Court, wishing to enter Oleander Avenue, have 230' and 132' of available sight distance when looking toward southbound and northbound traffic, respectively. Motorists traveling eastbound on Tamarack Street, wishing to enter Oleander Avenue, have over 300' southbound and 206' northbound of available sight distance (a minimum of 260' of stopping sight distance is required). Looking toward northbound traffic, the available sight distance measured at this intersection is not adequate for the 85<sup>th</sup> percentile speed of 37 mph. A contributing factor to this limited sight distance is the on-street parking spaces located immediately adjacent to Tamarack Court and Tamarack Street, however, the limiting factor for sight distance measured from Tamarack Court is the vertical curve located south of the intersection resulting in the 132' available sight distance measurement.

The sight distance measurements shown above were performed with no vehicles parked near the intersection of Tamarack Court/Street near Oleander Avenue. The critical sight distances of 132' and 206' as shown above will reduce by approximately 40' if vehicles are parked within 25' of this intersection. Vehicles parked beyond 25' from the curb returns of Tamarack Court/Street on Oleander Avenue do not affect the sight distance. Therefore, staff recommends the curbs to be painted on Oleander Avenue, south of Tamarack Court and Street, for a distance of 25'. In addition, the sight distance available to motorists on Tamarack Court looking north, at times, can be significantly reduced by parked vehicles. Even without the presence of parked vehicles this line of sight does not meet current sight distance standards. As a result, it is staff's recommendation that red curb be painted on the east side of Oleander for approximately 160' north of the subject intersection. While this may reduce available parking spaces in the area, it will allow the best sight distance possible at all times of the day.

## CONCLUSION:

Concerns raised by residents in the area regarding the speed of vehicles traveling along Oleander Avenue are valid - the 85% speeds measured along Oleander Avenue are 12mph above the posted speed limit. Review of the previous safety commission reports regarding Oleander Avenue also shows the speeding problem is not new to the area, and has not gotten any better since the installation of either the stop sign at Sequoia Street, or the striping/traffic calming modifications made over the past 6 years. In addition, staff reviewed accident rates at the intersection of Oleander and Sequoia and determined that there have been no changes in accident rates as a result of the all-way stop installation.

Accident reports are generated by the City of Chula Vista Police Department for every reported accident, and then are submitted to the State of California. The data ultimately is organized and downloaded on a quarterly basis by City of Chula Vista Traffic Engineering Staff for analysis and data gathering purposes. According to the data downloaded from the State of California, there have been no accidents reported at the subject intersection. Although staff has determined there are sight distance limitations at this intersection, after reviewing the accident history it would appear that motorists recognize these limitations and take appropriate levels of caution when turning onto or off of Oleander Avenue at this intersection.

As part of the all-way stop warrant analysis, a pedestrian count was taken in an attempt to determine the number of pedestrians crossing either road during what is typically the peak hour for pedestrian activity. In this case, staff observed the intersection on October 31 from 2:30 – 3:30p.m. This time was chosen in order to see if there were a large number of students walking home from school that cross Tamarack Street, Tamarack Court, or Oleander Avenue. Staff counted 8 pedestrians during this “peak hour.” This does not indicate a heavy amount of pedestrian activity at the subject intersection.

The overall volume of traffic utilizing Oleander Avenue has increased over the past six years by approximately 10%. While there has been recent development in the area that may have effected traffic volumes along Oleander Avenue, this development has been completed for a long enough period of time to assume any changes in traffic patterns along Oleander Avenue have already taken place. The City has set thresholds for major roadways in Chula Vista regarding acceptable levels of service. These thresholds, or levels of service (LOS), are based on the average delay a motorist can expect as a result of traffic volumes, and are reported as letter grades A through E with A being the best grade possible. For major arterials, the delay motorists experience is measured on an annual basis by City staff that drives these streets, recording the time it takes to get from “Point A” to “Point B.” Their results are then reported to the City’s Growth Management Oversight Committee (GMOC) which requires major arterials operate at a LOS C or better. Levels of service can also be estimated for smaller streets using the City of Chula Vista Street Capacity Standards that are based on the volume traveling along a particular classification of roadway. According to the street capacity standards a Class III Collector such as Oleander Avenue operates at LOS C if the average daily volume (ADT) of the roadway is 7,500 trips/day or less. As measured in October of 2007, Oleander Avenue currently handles 1,593 trips/day, resulting in an estimated LOS A. While levels of service are typically not assigned to local, or residential roads, they are designed with a certain capacity in

mind. According to the City subdivision manual, a residential road is designed to accommodate 1,500 ADT. As measured in October of 2007, both Tamarack Street and Tamarack Court are well within their designed capacities.

The intersection of Oleander Avenue and Tamarack Court/Street received a total of **22 points** out of a possible 100 points, where a minimum of 45 points are required to justify the installation of an all-way stop control. Therefore, in accordance with Council Policy 478-03 and based on 1) the points awarded by the warrant study, 2) the lack of a significant accident history, 3) the low pedestrian usage, and 4) the estimated LOS A along Oleander Avenue, staff does not recommend the installation of all-way stop control at this intersection. However, staff has additional recommendations regarding this intersection.

City Engineering staff, when reviewing new developments, typically requires developers to install stop signs on residential streets at intersections with collector streets. In order to maintain consistency across the City, it is staff's recommendation that stop signs be placed on Tamarack Court and Tamarack Street at Oleander Avenue, complete with limit lines and pavement legends.

Recognizing the sight distance limitations, speeding issues that continue on Oleander Avenue, and residents concern for safety, staff further recommends the installation of painting the curbs red on Oleander Avenue south of Tamarack Court and Tamarack Street for a distance of 25' to prevent the obstruction of available sight distance by parked vehicles for the motorists wishing to enter Oleander Avenue. Furthermore, we recommend painting the curb red on the east side of Oleander Avenue, north of Tamarack Court, for a distance of approximately 160' in order to guarantee the maximum amount of sight distance possible at this location. These improvements amount to a decrease in available parking along Oleander Avenue by approximately seven parking spaces, however, staff does not believe this will have a significant impact to the surrounding area.

#### **FISCAL IMPACT:**

The estimated cost for installing two stop signs, painting limit lines, "STOP" legends, and red curb, at this intersection is \$1,000.00, and can be accommodated by the Public Works operating budget.

#### **Attachments:**

- Location Map
- Proposed Improvements
- All-Way Stop Study
- Copy of letter of request
- Past Safety Commission Reports/Minutes
- Power Point Presentation